REMARKS/ARGUMENTS

This Amendment is in response to the Office Action mailed February 9, 2005. In the Office Action, claims 9, 19, 21, 24, 26 and 30 were objected to being dependent on a rejected base claim, but would be allowable if rewritten in independent form. Applicants respectfully have placed claims 9, 19 and 24 into independent form, including limitations of claims 1, 17-18 and 22-23, respectively. Allowance of claims 9, 19 and 24 is respectfully requested.

Additionally, in the Office Action, claims 1, 2-8, 10-16 and 27-28 were provisionally rejected under the judicially created doctrine of the obviousness-type double patenting, and claims 1-8, 10-18, 20, 22-23 and 27-29 were rejected under 35 U.S.C. §103(a). Reconsideration in light of the amendments and remarks made herein is respectfully requested.

Double Patenting

Claims 1, 2-8, 10-16 and 27-28 where rejected under the judicially created doctrine of the obviousness-type double patenting of the claim of co-pending Application No. 09/931,072. Applicants respectfully request the Examiner to reconsider the provisional obviousness-type double patenting rejection. Applicants respectfully offer to execute and file a terminal disclaimer, as needed, in order to obviate the obviousness-type double patenting rejection once the pending claims are in condition for allowance.

Rejection Under 35 U.S.C. §103

Claims 1-3, 5-6, 10-13 and 27 were rejected under 35 U.S.C. §103(a) as being unpatentable over Matsuura (U.S. Patent No. 5,530,860) in view of Gulick (U.S. Patent No. 6,421,702). Applicants respectfully traverse the rejection because a *prima facie* case of obviousness has not been established.

As the Examiner is aware, to establish a *prima facie* case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify a reference or to combine reference teachings. Second, there must be a reasonable expectation of

success. Finally, the prior art reference (or references when combined) must teach or suggest all of the claim limitations. *See MPEP §2143; see also In Re Fine, 873 F. 2d 1071, 5 U.S.P.Q.2D 1596 (Fed. Cir. 1988).* Herein, at a minimum, the combined teachings of the cited references do not describe or suggest sufficient motivation to modify the cited references and do not describe all the claim limitations.

The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *See In re Mills,* 916 F.2d 680, 16 U.S.P.Q.2d 1430 (Fed. Cir. 1990). Applicants respectfully submit that none of the cited references suggest such combination, and in fact, such combination may constitute impermissible hindsight reconstruction.

Herein, Gulick teaches scheduling of tasking, and in particular isochronous tasks, but offers no teaching or suggestion of scheduling virtual machines, namely software that emulates hardware. *See col. 2, lines 52-65 of Gulick.* Matsuura discloses a control program (21) and a CPU assignment information area (19) for storing CPU resource assignment ratios determined according to the running time of actual CPUs (12-1, 12-2) to be assigned. *See col. 6, lines 6-21 of Matsuura.* The CPU assignment ratios are represented as percentages, with the assignment ratios appearing to be predetermined. *See col. 7, lines 10-12; col. 8, lines 9-10 of Matsuura.*

First, Applicants respectfully submit that there is no suggestion for the combination of the task scheduling taught by Gulick with the virtual computer control system of Matsuura. Matsuura is configured to control assignment ordering of VMs according to predetermined rules and assignment ratios. Likewise, Gulick teaches task scheduling based on the listed interval of the task and the execution duration. The "interval" specifies how often the isochronous task should be executed and the "execution duration" identifies the specified maximum execution time. *See col. 7, lines 35-39 of Gulick.* The combination of these references would not teach or suggest *determining* a *respective resource requirement* and a *respective interrupt period* for *each virtual machine,* and thereafter, scheduling the virtual machines *based on this determined data. Emphasis added.*

Second, even if such modification is suggested, neither <u>Gulick</u> nor <u>Matsuura</u>, alone or in combination, teaches or suggests "scheduling said plurality of virtual machines *based*, at least in part, *on said respective resource requirement and interrupt period values*" as generally set forth in independent claims 1 and 10. *Emphasis added.* Rather, the scheduling is based on predetermined preset values, and not values determined for each virtual machine. Moreover, neither <u>Gulick</u> nor <u>Matsuura</u>, alone or in combination, teaches or suggests a virtual machine monitor adapted to schedule virtual machines *to execute real-time applications based, at least in part, on a resource requirement for each virtual machine and an interrupt period for each virtual machine. Emphasis added.*

Hence, Applicants respectfully request the Examiner to withdraw the outstanding §103(a) rejection as applied to claims 1-3, 5-6, 10-13 and 27.

Claims 4, 7-8, 14-16 and 28-29 were rejected under 35 U.S.C. §103(a) as being unpatentable over <u>Matsuura</u> in view of <u>Gulick</u> and further in view of <u>Maytal</u> (U.S. Patent No. 6,092,095). While Applicants traverse this rejection in its entirety, no further arguments as the allowability of these claims is required because these claims are dependent independent claims 1, 10 and 27, which are allowable as describe above. Withdrawal of the outstanding §103(a) rejection as applied to claims 4, 7-8, 14-16 and 28-29 is respectfully requested.

Claims 17-18, 20, 22-23 and 25 were rejected under 35 U.S.C. §103(a) as being unpatentable over <u>Webber</u> (U.S. Patent No. 6,412,035). Applicants respectfully traverse the rejection because a *prima facie* case of obviousness has not been established. Reconsideration of the pending claims is respectfully requested.

Herein, the Office Action alleges that page 5, lines 10-24 of <u>Webber</u> teaches initializing the interrupt period values, generating virtualized interrupts by virtualizing hardware interrupts, filtering known non-periodic interrupts, rejecting detected aperiodic interrupts, and adjusting said interrupt period values iteratively until substantially equivalent to actual interrupt periods. Applicants disagree.

In contrast, Webber describes a fast interrupt handling module that provides facilities for faster servicing of certain real-time interrupts (page 5, lines 47-67 and page 7, line 3 through page 8 line 14). In particular, Webber provides various functions for changing the interrupt frequency. However, Applicants were unable to locate where Webber discloses adjusting the interrupt period values iteratively until substantially equivalent to actual interrupt periods. Further, Applicants were unable to locate where Webber discloses filtering of known non-periodic interrupts. In regard to filtering, it appears that Webber merely provides a Hook_Device_Services() function that has several member functions that filter corresponding functions of the VTD.386 module. These functions of the Hook_Device_Services() appear to override or filter software calls to similar functions of the VTD.386 module, but as far as Applicants can discern, do not filter non-periodic interrupts.

In order to facilitate prosecution of the subject application, in the event that the claims are not allowed upon reconsideration, Applicants respectfully request the Examiner to point out specifically where each and every limitation set forth these claims is found in Webber.
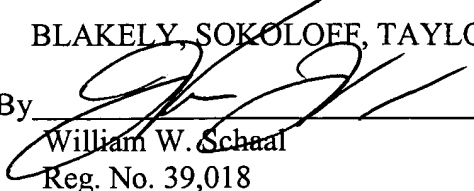
Conclusion

Applicants respectfully request that a timely Notice of Allowance be issued in this case.

Respectfully submitted,

BLAKELY, SOKOLOFF, TAYLOR & ZAFMAN LLP

Dated: 05/09/2005   By_____

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